Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)		
Person(s) Conducting Field Inspection	Jake Forsman *Environmental Scientist*	07/10/2013
Site Information		
Location:	MV 53-28 Frac Pad	Time: 12:30
Type of Facility:	Existing Well Pad	
Environmental Conditions	Sunny and dry conditions	
Temperature (°F)	94°F	

Has the proposed, new or existing location been designated as a sensitive area?
☐ Yes ☒ No

SURFACE WATER

1. Are there any surface water features or SWSAs adjacent to or within ¼ mile of the proposed/new or existing facility?
   ☒Yes ☐ No

   If yes, list type of surface water feature(s), i.e. rivers, creeks, streams, seeps, springs, wetlands: Parachute Creek, a USGS identified perennial stream; low cost ditch a seasonal irrigation ditch; one USGS identified unnamed intermittent drainage

   If yes, describe location relative to facility: Parachute Creek is located approximately 1,890 feet to the west, the low cost ditch is located approximately 800 feet to the southwest, and the USGS identified unnamed intermittent drainage is located 472 feet to the northwest of the existing facility.

2. Could a potential release from the facility reach surface water features?
   ☐Yes ☒ No

   If yes, describe the pathway a release from the facility would likely follow to determine if the potential to impact surface water is high or low.

3. Is the potential to impact surface water from a facility release high or low?
   ☐ High ☒ Low

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GROUNDWATER

1. Will the proposed/new or existing facility have any pits which will contain hydrocarbons and chlorides or other E&P wastes?
   ☐Yes ☒ No All fluids will be managed on the surface
   If yes, List the pit type(s):

2. Is the site of the proposed facility underlain by an unconfined aquifer or recharge zone?
   ☒ Yes ☐ No

3. Is the hydraulic conductivity of the underlying soil or geologic material≤ $1.0x10^{-7}$ cm/sec?
   ☐ Yes ☒No

4. Is the proposed facility located within 1/8 mile of a domestic water well or 1/4 mile of a public water supply well which would use the same aquifer?
   ☐Yes ☒ No

5. Is the proposed facility located within a 100 year floodplain?
   ☐ Yes (*Sensitive Area*) ☒No (*If no, proceed to question #6.*)

6. Is the depth to groundwater known?
   ☐Yes (*If yes, follow instructions provided in 6(a) of this section).*
   ☒No (*If no, follow instructions provided in 6(b) of this section*).

   (a) If yes, could a potential release from the proposed facility reach groundwater?
   ☐ Yes ☐No
   If yes, explain:

   (b) If no:
   (i) Evaluate surrounding soils, topography, and vegetation which may suggest the presence of shallow groundwater.
   (ii) Gather information from surrounding well data in order to determine a depth to groundwater, i.e. State Engineers Office.

7. Is the potential to impact ground water from the facility in the event of a release high or low?
   ☐ High ☒Low

Additional Comments:

As stated in the surface water section of this sensitive area determination, there are three (3) USGS identified surface water features located to the northwest and southwest of the existing facility. The facility, as it is currently proposed to be expanded, limits the direction of a potential release to primarily the southwestern side. If a potential release were to migrate off the facility, flow would be to the southwest following the natural contours of the area. During facility expansion, it is recommended that Best Management Practices (BMPs) be installed on the along the fill slope sides. This would include portions of the northwestern and southeastern sides and the entire southwestern side. The installed BMPs should be in the form of an earthen perimeter berm along the graded edge of the fill slope sides. If feasible, a diversion ditch should be constructed adjacent the toe of the fill slopes sides along the above mentioned sides. All installed BMPs should be monitored and maintained to ensure site containment in the event of a potential release.

The State Engineer's office and USGS records were reviewed and no information was revealed which would provide additional information pertaining to the depth of groundwater. The vegetative cover in the immediate vicinity of the proposed facility (rabbit brush, greasewood, and sagebrush) does not suggest the presence of shallow groundwater.

Based on the information collected during the field investigation and desktop review, the potential to impact groundwater would be deemed to be low. The greatest potential for impacts would be to the Low Cost Ditch located to the southwest of the existing facility. Low Cost Ditch is an irrigation ditch with seasonal flow. However, due to man-made modifications to the land surface it is not anticipated a potential release would reach Low Cost Ditch. Flow, if it were to migrate off the facility, would tend to congregate in the flat lying pipeline right-of-way and an non-irrigated field located to the southwest of the existing facility. Parachute Creek would not be impacted by a potential release from the facility as it is separated from the facility by the Low Cost irrigation ditch. The Low Cost Ditch would capture any fluids from a potential release if it were ever to reach the ditch which has been deemed to be low as noted above. The unnamed USGS identified drainage feature to the northwest would not be impacted by a potential release as it is located at an elevation higher than that of the existing facility. With the potential to impact groundwater and surface water features being deemed low, the proposed facility can be designated as being in a non-sensitive area.

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Inspector Signature(s): _____ Date: 7/12/2013

Mark E. Mumby, *Project Manager/RPG*
HRL Compliance Solutions, Inc.

_____ Date: 07/10/2013

Jacob Forsman, *Environmental Scientist*
HRL Compliance Solutions, Inc.